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### **Abstract**

A system and method are presented for determining the detection and location of persons and objects using ultrasonic acoustic sensors. The system allows detection of stationary and moving persons and other objects, through atmospheric conditions, to a distance of at least 300 feet. The invention further provides for enhanced signal processing through the use of arrays of transmitters and receivers, where one or more transmitter arrays may be oriented substantially perpendicularly to one or more receiver arrays, allowing high directionality and good rejection of reverberations, background noise, clutter and objects not of interest.

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